**Chapter 12: Cross-Comparative Sport Policy Analysis and Paralympic Sport**

The purpose of this chapter is to introduce the reader to the discussions surrounding the cross-comparative sport policy literature and begin examining how cross-comparative sport policy research might be applied to a Paralympic sport context. In doing so, the chapter identifies a number of issues in applying what have historically been able-bodied centric comparative models to examine Paralympic sport. The current chapter is organised into two sections; the first provides a brief overview of the cross-comparative debate along with the various cross-comparative sport policy models that have been proposed in recent years. The second section considers how cross-comparative sport policy models (or modified versions of them) might be applied to better understand the Paralympic sport domain. In particular, we draw upon the ‘SPLISS’ model put forward by De Bosscher and colleagues as one of many examples of cross-comparative sport policy models that *could* be used to examine Paralympic sport. The central premise of the chapter is that the adoption of cross-comparative sport policy approaches has the potential to further develop our understanding of Paralympic sport; however, any attempts to adopt and apply cross-comparative sport policy approaches to Paralympic sport should only be done so cautiously.

**The Global Sporting Arms Race**

This section provides an overview of and introduction to the cross-comparative sport policy research domain. Primarily due to space constraints and the Paralympic sport-based interest and emphasis of this book, the discussion will be relatively brief (for more detailed treatments of the cross-comparative sport policy literature see Bergsgard et al. 2007; De Bosscher et al. 2008, 2015; Green and Oakley 2001). Furthermore, although we recognise and acknowledge the important contributions of cross-comparative scholarship from a number of more established academic disciplines such as education, health, and management we deliberately delimit our discussions here to more contemporary scholarship surrounding cross-comparative sport policy (cf. Digel 2002; Green and Houlihan 2005; Henry et al. 2005; Green and Oakley 2001; Houlihan and Green 2008; De Bosscher et al. 2006, 2008, 2015; Truyens et al. 2013).

Between 1952 and 1988 the Eastern Bloc nations including the German Democratic Republic (GDR) and Soviet Union dominated international sporting competition by producing arguably the most efficient and effective high performance sport model (Dennis and Grix 2012; Green and Oakley 2001). Green and Oakley (2001) for this reason described the GDR/Soviet Union system at the time as “the vanguard of developing sporting excellence” (247). The features of this model included a long-term and systematic approach to athlete development, a strong political willingness to support high performance sport, state controlled apparatus, specialist sport schools/academies, and world-renowned coaching and sport science support (Dennis and Grix 2012; Green and Houlihan 2005; Green and Oakley 2001). This highly rationalised system continued to demonstrate its superiority over other nations until the eventual collapse of the Soviet Union and Eastern Bloc, whereby it soon became apparent that systemic doping was an additional hidden feature (Dennis and Grix 2012; Green and Oakley 2001). Nonetheless, even despite the widespread and systematic use of doping, the GDR/Soviet Union’s consistent approach to producing high performance success demonstrated that high performance sport was perhaps not a matter of ad hoc chance or entirely dependent upon uncontrollable environmental factors. Rather, the GDR/Soviet Union model demonstrated international success could be achieved through a strategic complex process of organisational, economic and political calculation (Digel 2002). De Bosscher et al (2006), amongst many other academics, supported this viewpoint by stating “the former eastern bloc countries have undoubtedly played an important role in current developments of elite sport” (194). In short, the lessons learned from the GDR/Soviet Union model and subsequent high performance related developments within many other countries was that it was possible to develop a ‘managed approach’ (Green and Oakley 2001) to achieve international sporting success. What has not occurred, meanwhile, is a similar evolution in Parasport in general and Paralympic sport in particular. Parasport here would refer to all disability sport at every level while the Paralympic Games are the pinnacle of sporting excellence for athletes with a physical disability. For a more detailed discussion regarding the historical development of elite/Paralympic sport see Chapter 7 of this handbook.

Returning to an understanding of comparative sport policy research in the able bodied domain, the already noted recognition of the potential to systematically impact sport medal performance, combined with a number of socio-cultural developments (e.g., the advent of television, commercialism and professionalisation of sport etc.) led nation-states (and in particular governments) to invest substantial sums of money into pursuing Olympic glory and also in a few cases Paralympic success. Academics have referred to this phenomenon as the *global sporting arms race*, which has resulted in (typically although not exclusively to westernised) countries investing substantial sums of money in an effort to compete with other nations for international sporting success, and primarily at the Olympic Games (De Bosscher et al. 2006, 2008; Donnelly 2009; Green and Houlihan 2005; Green and Oakley 2001; Grix and Carmichael 2012). The imagery of an arms race of sport evokes George Orwell’s famous adage that ‘sport is war minus the shooting’ with countries competing for international supremacy, but through the use of athletes instead of guns (Beck 2013) in order to promote and demonstrate the superiority of political ideology.

As a consequence of the global sporting arms race, high performance sport has become increasingly more competitive, complex, and uncertain (De Bosscher et al. 2006; Digel 2002), with many countries, albeit with varying degrees and levels of commitment, now attempting to imitate the success of the GDR/Soviet Union in order to design the most efficient and effective sport system (Digel 2002; Green and Houlihan 2005). Green and Oakley (2001), for example, concluded that “many antecedents of the former Eastern Bloc’s ‘managed approach’ to elite sport are increasingly apparent” (247) within many westernised countries. De Bosscher et al (2006), amongst other academics, also support this viewpoint by stating “the former eastern bloc countries have undoubtedly played an important role in current developments of elite sport” (194). For Green and colleagues, the outcome of this continued pursuit of an ‘optimal solution’ to winning medals has been an increasing homogenisation or uniformity of elite sport systems, with countries attempting to imitate (i.e. copy) tried-and-tested high performance related structures and processes of other countries through a slow but steady process of lesson learning and policy transfer (Green 2007; Green and Collins 2008; Green and Houlihan 2005; Green and Oakley 2001; Houlihan and Green 2008).

Scholars have also suggested that another consequence of this ‘arms race’ has been the increasing institutionalisation of high performance sport across many sport systems, with the pursuit of international sporting success becoming a progressively taken-for-granted behaviour within many westernised countries (Digel 2002; De Bosscher et al. 2006, 2008; Green and Houlihan 2005; Houlihan and Green 2008; Kikulis, Slack, and Hinings 1992; Slack and Hinings 1994). The institutionalist perspective would even go so far as to suggest that countries are adopting high performance sport policies and practices (through various isomorphic processes) in an attempt to be perceived as legitimate nations, within the context of increasing globalisation, rather than necessarily for the purposes of improving efficiency or effectiveness of athlete development per se (Digel 2005).

It is against this broader backdrop that the cross-comparative sport policy literature has emerged with practitioners and academics alike seeking to find potential solutions to a number of increasingly difficult and growingly complex problems with regards to delivery and management of high performance sport. In particular, cross-comparative sport scholars and practitioners alike have sought solutions to questions such as:

* *How to measure international sporting success?*
* *What makes some nations more successful at international sport competition than others?*
* *What exactly do nations need to produce a high performance athlete?*
* *What is the most efficient and effective way to develop high performance athletes?*

In an attempt to answer these questions, sport scholars have created and developed a number of theoretical models and approaches in order to compare nations often through empirical examination. Although these approaches share many commonalities, they have also varied in their overall interests and emphasis and in some cases underpinned by fundamentally different philosophical traditions. It is to these models and their similarities and differences that we now turn.

**Comparative High Performance Models**

As De Bosscher et al (2008) acknowledges there is no perfect model for comparing high performance sport systems. Nonetheless, there have been a number of attempts to compare high performance sport systems in recent years (e.g., Baumann 2002; Digel 2002; De Bosscher et al. 2008, 2015; Green and Houlihan 2005; Green and Oakley 2001; Houlihan and Green 2008; Petry, Steinbach, and Tokarski 2004; Platonov 2010; Smolianov and Zakus, 2008; Truyens et al. 2013). Earlier attempts to compare sport systems were comparatively modest, offering primarily descriptive and often atheoretical analysis that explored the relative strengths and weaknesses of successful Olympic nations (e.g., Baumann 2002; Digel 2002; Petry, Steinbach and Toraski 2004; for exception see Green and Oakley 2001). Digel (2002), for example, examined the common features and differences of eight selected countries (Australia, China, Germany, France, United Kingdom, Italy, Russia, USA). Digel (2002) identified a number of societal, organisational and societal-organisational relationship factors that influence high performance success. Green and Oakley (2001), meanwhile, analysed emerging trends towards uniformity of elite sport systems and identified 10 similarities in approach to elite sport in six countries (UK, Canada, USA, Australia, France, Spain).

More contemporary cross-comparative sport policy scholarship has attempted to go beyond description by adopting more theoretically informed research designs. Green and Houlihan (2005), for example, examined policy change across three countries (Australia, Canada, United Kingdom) and three sports (track and field athletics, sailing, and swimming) using a modified version of the Advocacy Coalition Framework. Green and Houlihan’s (2005) analysis identified variability in the manner in which countries prioritised high performance sport, however, surprising similarity in the underlying causes or factors (explained through the Advocacy Coalition model) that led to a high performance sport emphasis.

In building on the previous cross-comparative sport policy works, De Bosscher et al (2006) developed a theoretical model for comparing the sports policy factors leading to international sporting success (abbreviated to ‘SPLISS’). This model identified nine factors (or ‘pillars’) that determine international sporting success and over 100 Critical Success Factors (CSFs). The ‘SPLISS’ consortium later employed a mixed-method design to examine six countries which will be described in greater detail later in this chapter (De Bosscher et al. 2008; 2009) and later in 15 nations (De Bosscher et al., 2015). More recently, Truyens and colleagues (Truyens et al. 2013) also applied a sport specific approach to the SPLISS model through a Resource-Based View perspective by examining the competitiveness of nations in track and field/athletics. Similarly, Brouwers et al. (2015) applied the model to tennis, and Mazzei (2016) to judo. All three sport specific studies pointed to the importance of including the environment of elite sport in cross national policy comparisons, such as media, sponsorship, culture and the tradition of elite sport. These comparative models also vary in their interest and emphasis, with some focusing on what De Bosscher et al (2006) describe as meso-level aspects (i.e. structural factors) and others on macro-level aspects (i.e. environmental factors) (Bergsgard et al. 2007; Wing Hong To, Smolianov and Semotiuk 2014). Bergsgard et al (2007) suggest this difference in emphasis is more likely a reflection of researchers’ underlying philosophical assumptions and symptomatic of the longstanding debate in social science between those who emphasise structural/institutional factors (e.g., sport organisations and funding relationships) and those who emphasise agents and agency (e.g., the role of individuals and key decision-makers).

Despite their differences and varied emphasis, however, many of these models share much in common. First, these models share an understanding of the importance of comparing nations using multiple-levels of analysis. Digel’s approach, for example, identified three-levels of analysis: social conditions (e.g., ideology, interest in sport and physical activity), system conditions (e.g., rewards, Olympic tradition, competition), and environment-system relations (e.g., state, economy, media). Similarly, De Bosscher et al (2006) identified three levels of factors (macro, meso, and micro) that determine international sporting success. Macro-level factors are the socio-cultural environment in which we live (e.g., population, economic welfare, geography, politics, culture etc.). Meso-level factors are elements of the sport system that may influence the long-term performance of an athlete (e.g., organisation and structure of sport, sports policies). Micro-level factors are individual characteristics that directly influence the athlete (e.g., genetics, the coach-athlete relationship, training techniques etc.). Both Digel (2002) and De Bosscher et al (2006) suggest that all these factors are interrelated and influence (albeit to varying degrees) the international success of athletes. The difference between Digel and De Bosscher and colleagues’ approach is that the latter focuses exclusively on meso-level factors, as these are the only elements that they argue decision-makers are able to influence.

A second commonality of cross-comparative models surrounds a general agreement that despite the on going process of homogeneity of many elite sport systems there is no ‘one’ ideal approach but rather multiple ways in which to be able to become a successful high performance nation. As Green and Oakley (2001) conclude, “it would be erroneous to preclude the possibility of diversity, uniqueness or distinctiveness from any future debate on global development of elite sport systems in different countries” (265). A similar conclusion was reached by De Bosscher et al (2015), who noted that

we naively started the first project [SPLISS 1.0] thinking that we could identify a uniform best practice pathway towards building a perfect elite sport development system, we now know that it is not so much the whole of a system structure, but much more the unique combination of system pieces that result in a variety of different approaches that deliver elite sport success. (15)

Hence, although we are witnessing an increasing uniformity of high performance sport systems globally there still remains considerable room for the diversity in the development and management of these systems (Green and Oakley 2001).

A third commonality is the recognition that population and funding are likely two major determinants of success in able bodied sport (e.g., Bernard and Busse 2004; Morton 2002). But it is also important to note that these also do not necessarily ensure or guarantee sporting success (Mitchell, Spong, and Steart 2012). In relation to Olympic Games medal tallies at least, these two factors typically explain over 50% of the medals won. Whilst yet to be empirically verified, a brief review of medals won in Paralympic Games is likely to demonstrate a similar pattern. This is not unexpected in either the Olympic or Paralympic context. As noted by De Bosscher et al. (2008), “there are reasonable explanations for this fact that wealthy countries perform better. Richer counties can invest more in sport and elite sport, individuals may participate in a broader number of sports and higher living standard may improve their general fitness and ability to perform at a top level.” (223)

A fourth commonality amongst all of these studies has been a focus on developed nations. Digel et al’s (2006) study focused on eight countries (stated above). Green and Houlihan (2005) compared Australia, UK and Canada across three sports (Athletics, Sailing, and Swimming). Bergsgard et al’s (2007) analysis centred on Germany, England, Canada and Norway. Anderson and Ronglan (2012) studied four Nordic nations (Sweden, Denmark, Norway and Finland). Houlihan and Green (2008) examined nine countries including China, Japan, Singapore, Germany, France, Poland, Norway, New Zealand and the USA. De Bosscher and colleagues (De Bosscher et al. 2006) analysed six nations including Belgium (divided into Flanders and Wallonia), the Netherlands, Canada, Italy, Norway and the UK and later on in 15 nations (ten European, 2 in Asia, 2 in America and Australia) (De Bosscher et al. 2015). The above studies have all contributed to and developed further our understanding of cross-comparative sport policy; however, to the authors’ knowledge no studies have yet to examine – at least comparatively – elite sport policy development across developing nations. This ongoing emphasis on developed nations remains a limitation of the cross-comparative sport policy literature to date given that many of the National Olympic/Paralympic Committees recognised by the International Olympic/Paralympic Committees are situated with developing nations.

**Applying SPLISS to Paralympic Sport**

This section considers how cross-comparative models (or modified versions of them) might be applied to disability/Paralympic sport. In particular, in recognising that none of the recently developed sport policy cross-comparative models have been applied to Paralympic sport to date, this section draws upon one model – De Bosscher and colleagues’ SPLISS model – as an example of one of many cross-comparative approaches that *could* be used to examine the para-domain. Due to the current lack of scientific research within this area, we offer our thoughts below as a starting point of discussion and as a means of generating open discussion regarding the potential application of cross-comparative sport policy research to examine the Paralympic domain.

The discussion below provides an outline of the SPLISS framework and the nine pillars as identified by the SPLISS model in order to demonstrate how the framework more generally, and its nine pillars specifically, might be used to examine international sporting success in Paralympic sport. There is also the potential possibility that the pillars do not fit or that others are needed within a Paralympic context. At the time of writing, two Doctoral students were pursuing this specific line of questioning under the guidance of Dr. Veerle De Bosscher. As a starting point, in order to examine how the SPLISS model may be applied to the Paralympic domain, it is important at this time to provide brief context to how the original model evolved. As noted earlier in this chapter, the SPLISS model emerged, in part, from national sport organisations asking how to effectively and efficiently allocate resources (De Bosscher et al. 2006). The challenge was that creating an international champion is complicated with it based on an unknown algorithm of nature (an athlete’s genetic qualities) and nurture (the environmental and physical circumstances where an athlete exists). In assuming that the ability to impact nature is (at least currently) beyond the responsibilities of a sport leader and public policy maker, the influence of nurture – according to De Bosscher et al (2006) – can be divided into three levels: the macro (the social and cultural context in which an athlete lives), meso (sports policies and politics) and micro (individual athletes and their social circle which includes their family, friends and coaches) levels. For De Bosscher and colleagues (De Bosscher et al. 2006), only the meso-level factors can be directly influenced, changed and perhaps most importantly, implemented by sport leaders. As discussed earlier, it is not suggested by De Bosscher and colleagues that macro uncontrollable macro factors such as population or a nation’s wealth are therefore not important, but rather these are beyond the scope of sport leaders and policy makers (De Bosscher et al. 2006).

In acknowledging the limited scope of influence of sport leaders and policy makers, De Bosscher and colleagues recognised the absence of a tool or method in which to systematically compare measure sport systems. It was this recognition that in 2002, led to an international consortium of sport academics from Belgium, the Netherlands and the United Kingdom to develop the Sport Policies Leading to International Sporting Success (SPLISS 1.0) study. First, the consortium recognised the need to fill a gap in the scientific literature on the direct or indirect relationship between elite sport policies and international sporting success. Second, these researchers wanted to benchmark their nation against competitors. A comparison of elite sport policies was thus initiated to test a model of sporting success in six nations. The data from this study resulted in a Ph.D. thesis by the lead researcher Dr. Veerle De Bosscher and a book published by the entire consortium ‘*The Global Sporting Arms Race*’ (De Bosscher et al. 2008).

The SPLISS consortium then extended this research with a second study (SPLISS 2.0) expanded to 15 countries in collaboration with 53 researchers and 33 policy makers. The nations included Australia, Canada, Belgium (Flanders and Wallonia were treated as two separate nations), Brazil, Denmark, Estonia, Finland, France, Japan, Korea, the Netherlands, Northern Ireland, Portugal, Spain and Switzerland. In both iterations (i.e. SPLISS 1.0/2.0), the SPLISS researchers identified nine pillars as being relevant to medal success noted as the outcome. The three basic components followed a logic model approach with an input, multiple throughputs and an output. More specifically, the pillars included the input of financial (Pillar 1) investments. This was followed by throughputs such as integrated approach to policy development (Pillar 2) seen as providing the necessary conditions for the development of sport and athletic careers. Simply put, nations that invested more and in smarter ways within high performance sport could create more opportunities for athletes to train under optimal circumstances. Pillars 3, 4 and 5 recognised that organisational structure was necessary to effectively manage the financial inputs. Finally, investments in training facilities (Pillar 6), coaching (Pillar 7), competition structures (Pillar 8), and scientific research (Pillar 9) were seen as essential building blocks for the development of high performance athletes. A 10th pillar which included the role of the media was not directly tested but inferred to be relevant to the success of high performance athletes. Of the eight throughputs none was identified as being more or less important. Instead, the model suggested that the development of podium success required a holistic, flexible, and context specific approach. Thus, nations might not increase their chance of success by investing in only a few pillars; rather they needed to find the most suitable blend of all pillars for their specific circumstance and situation (De Bosscher et al. 2008).

 What is still unknown, however, is whether these pillars and the SPLISS framework more generally will be suitable within the Paralympic context. Recent presentation abstracts by Legg and Darcy (2015) at the International Paralympic Committee’s 2015 VISTA conference and Pankowiak et al. (2015) at the SPLISS 2015 World Congress on Elite Sport Policy are two examples of attempts to start this process. Pankowiak et al. (2015) suggests that the Paralympic sport domain is unique from the able bodied sport and thus differs from the original context in which the SPLISS model was based. In particular, she notes that the organisation of para-sport is complex and fragmented and impacted in varying ways by inclusion. Key differences are further identified by Radtke and Doll-Tepper (2014) due to the sport classification system and impacts of technology in a Paralympic context. Finally, Pankowiak (2015) reflects on the many challenges and barriers identified by Misener and Darcy (2014) including funding, coaching provision, accessibility, and training/competitions opportunities. Even in spite of these initial discussions, however, there remains a limited understanding of how cross-comparative research more generally and the SPLISS model (De Bosscher et al. 2006) more specifically might be applied to examine a Paralympic context. Furthermore, the abovementioned discussions also identify a need to consider further the applicability of otherwise able-body centric cross-comparative sport policy models. As such, the remainder of this chapter provides our general thoughts on the potential application of the SPLISS framework to examine the Paralympic context. In doing so, we intend to lay the initial groundwork for future cross-comparative studies to examine Paralympic sport. The chapter concludes with a broader reflection on some of the inherent challenges of applying cross-comparative sport policy research to the Paralympic domain.

 **\*\*\*Insert De Bosscher et al (2006, 2015) model about here\*\*\***

**1. *Financial Support for Paralympic Sport***

Pillar 1 focused on the input or funding into high performance sport. The critical success factors here are based on funding from government, the private sector and lotteries at the national level. Comparisons among nations were made by using Purchasing Power Parity, an economic theoretical approach, to help understand the relative value of different currencies (De Bosscher et al. 2015). How much financial aid is given to Paralympic sports in each of the countries would thus be focus in the Palaympic context. If one was to look at the leading Paralympic nations, it is difficult to ascertain as specific dollar figures are not presently available, but it would appear that those nations that are financially strong also produce Paralympic medal winners. Countries such as Canada, the United States, Australia, United Kingdom, Russia, China, Brazil, Germany and France would certainly fall into this category.

**2. *Governance, Organisation and Structure of Elite Sport Policies***

The second pillar measured critical success factors that sought to understand the coordination of agencies involved in elite sport and whether they all had clear task descriptions without overlap. This pillar also focused on whether there is evidence of long-term strategic planning within nations. The other success factors in this pillar included whether staff at the national sport organisation level focused on stakeholder involvement, if there was effective communication among sport organisations/agencies, and structured cooperation and communication with external partners such as the media, private enterprises and other nations. Furthermore, the analysis brought insights into nations’ strategic priorities and if resources were targeted at relatively few sports or more broadly. In a Paralympic context the central questions within Pillar 2 would be to determine what are the main organisations involved in Paralympic sport and what is the history of each nation in relation to Paralympic sport? This second pillar is also an interesting pillar to consider as a potential cause of international sporting success, as was evidenced by the SPLISS 2.0 study (De Bosscher et al. 2015) that found that “precisely those countries that were identified as being the most efficient, were also the countries that perform best on Pillar 2: “organisation, governance & structure of elite sport”. It can be argued that these countries have the most integrated approach to elite sport development (pxxx). What might make for an interesting comparison among nations is looking at the difference between nations that have instituted inclusion with the able-bodied system and those that have not. Other permutations of this could be how the inclusion took place and when. Issues regarding the organisation and structure of Paralympic sport are covered in depth in chapters 7-11 of this handbook.

**3. *Participation in Disability Sport***

The third pillar SPLISS measured whether children had opportunities during school time to participate in sport, if there was a high rate of sport participation and the existence of a national policy towards promoting the implementation of quality management in sport clubs at the local level. The underlying assumption here is that in order to have successful athletes at the top of the pyramid, there must be many participating at the foundation. Trying to get an accurate understanding of this in a Paralympic context may be difficult because of national agreements on the time devoted to physical education or coordination of school competition. The difference between policy and practice is also difficult to capture. In Peake’s (2015) presentation she noted that the British Paralympic Association has identified the biggest obstacles to future success in Paralympic sport as being the strength of grassroots involvement and the number of people playing sport at community level. The difficulty applying this to a Paralympic context is that there are typically few athletes in each category of disability and it is hard to fathom a time when this might dramatically change. Obviously there are exceptions to this generalisation but the reality is that there will only be so many athletes who are quadriplegics that want to play wheelchair rugby. Therefore unlike the able-bodied system, increasing the para-participation levels even slightly may be enough to ensure greater excellence amongst a few outliers. It is also noteworthy to consider that the historical context of parasport in the context of injured armed forces personnel. Paralympic athletes often have acquired disabilities from previously being able bodied. Participation in able-bodied sport can be viewed as a potential precursor to recovery and rehabilitation through sport where initiatives such as the Invictus Games may potentially have an impact in developing a pool of talented athletes.

**4. *Talent ID and Athlete Development in Disability Sport***

Pillar four focused on assessing whether there was an effective system for the identification of young talented athletes and if there was a nationally coordinated system to do so. This pillar also assessed whether young athletes received the appropriate expertise and support services to help them develop through their sport and academic studies. Specific questions in this pillar assessed whether young talents received age appropriate multidimensional support services at different levels. This included training and competition support, medical/paramedical support

and lifestyle support, whether national sport organisations were funded specifically for talent development and received support services accordingly. Other questions asked if athletes or coaches rated the general support to combine elite sport training activities with studies as being sufficient or whether athletes went to specialised secondary schools that offered specific facilities to support elite sport and academic study. One of the criticisms of the Paralympic system is that there are so few athletes and competitive opportunities that athletes can at times progress (some might suggest prematurely or rushed) from the grassroots system to the elite level without relevant progression. The identification of athletes and whether this happens in a systematic way would also be a worthwhile assessment. Many countries likely rely on the method of serendipity, ad hoc chance, or coaches running after people with disabilities in shopping malls that look athletic. Many nations are now hosting days where persons with disabilities can try various sports but to what extent are Paralympic sporting nations systematically helping channel people with disabilities into those sports that might best suit their abilities? Talent transfer from the able bodied population is a key issue to explore with regards to talent identification as sport can be a motivational factor in recovery from traumatic accidents or incidents. Examples would include the United States Olympic Committee Paralympic Military Program that uses Paralympic sport to support rehabilitation of armed forces personnel and veterans http://www.teamusa.org/us-paralympics/military. Within the UK 6 former service personal who competed for GB in the London 2012 Paralympic Games. Talent identification and development takes within the para domain is therefore multifaceted issue for comparison.

**5. *Athletic and Post-Career Support for Paralympic Athletes***

The fifth pillar focused on critical success factors such as athlete living standards and training support, and post sport career support. Life outside of sport was always seen as a priority but it does not always garner the focus it deserves. More recently it would appear; however, that athletes, coaches and sport organisations have a better understanding of the relationship between athletic and post career support and with time, money and growth, there has been an increase in the availability of the programs to address these. It is a fine balance, however, when offering post

support services to athletes while they are training as it can be seen, perhaps, as a lack of focus or dedication. What support (beyond funding) then is available to Paralympic athletes? Admittedly, this is an area where most National Paralympic Committees appear to be either lacking or negligent.

**6. *Training Facilities for Paralympic Sport***

The sixth pillar was concerned with elite sport facilities and infrastructure. The critical success factors here were whether a nationally coordinated plan existed recognising the needs of athletes, coaches and the sports for training and competition. Second, it was assessed if there was a network of high quality national /regional elite sports centre(s)/facilities. A third area of

Questioning centred on whether there was specific funding provided for the building and renovation of facilities. What facilities are there for Paralympic training and competition? What access do athletes with a disability have? To what extent do Paralympic athletes have priority access to these facilities? To what extent to athletes have access to specialist equipment throughout key developmental milestones in their athletic development?

**7. *Coaching Provision for Athletes with Disability***

The quality and quantity of coaches is important at every level of sport and this was the focus for the seventh pillar. Here, it was assessed if there was sufficient number of well trained and experienced high performance coaches, and if they received sufficient opportunities to develop their coaching career to become world class. Coaching living conditions and whether coaches were recognised for their contributions was also assessed. [coach considerations on para-sport] Elite coaches may work across able bodied and para sport, to what extent is their specialist coaching in para sport? Do para athletes get access to truly elite coaches, or coaches with a special interest in inclusion? Given the higher profile of able bodied sport do para athletes receive comparable coaching support to able-bodied access? How might this be assess within a nation state and across nations?

**8. *International Competition for Paralympic Athletes***

In the eighth pillar, access to national and international competitions for athletes and coaches were assessed. More specifically, the pillar examined whether the current number of international events were sufficient and if there was a nationally coordinated plan to increase the number of events. The pillar also addressed whether national competitions were of a satisfactory standard. In relation to the Paralympic context, what training competitions are available to Paralympians? What level of competition are these events? Certainly the Paralympic movement has grown considerably and offers a broad array of competitive opportunities but it would be interesting to see if those nations that focus in this area consequently perform better during the Paralympic Games.

**9. *Scientific Support and Research for Paralympic Sport***

In the ninth pillar, it was assessed if scientific research was collected, coordinated and disseminated among coaches and national governing bodies, and if sport science was supported at each level of the sport system. What scientific support is offered to Paralympians? This is a promising area and hopefully, because of handbooks such as this, the development and encouragement of scholars to address Paralympic sport will continue. That being said, it would be worthwhile to understand if those nations that focus on scientific research within the area of Paralympic sport have a concomitant level of success at Paralympic Games. [more]. Chapter 20 (prostheses and other equipment issues – the issue of the Cyborg Athlete) provides a detailed discussion on scientific and technological support to para-athletes. How regular is the competition structure for para athletes beyond the 4 year Olympic cycles?

**Future Challenges of Applying Cross-Comparative Sport Policy Research to Paralympic Sport**

**References**

Anderson, Svein and Lars Tore Ronglan. 2012. *Nordic Elite Sport: Same Ambitions, Different Tracks*. Copenhagen: Copenhagen Business School Press.

Baumann, Alex. 2002. “Developing Sustained High Performance Services and Systems that have High Quality Outcomes.” Paper presented at the 12th Commonwealth International Sport Conference, Manchester, July 19–23.

Beck, Paul. 2013. “‘War Minus the Shooting’: George Orwell on International Sport and the Olympics.” *Sport in History* 33: 72-94.

Bergsgard, Nils., Barrie Houlihan, Per Mangset, Svein Nodland and Hilmar Rommetvedt. 2007. *Sport Policy: A Comparative Analysis of Stability and Change*. Oxford: Butterworth/Heinemann.

Bernard, Andrew and Meghan Busse. 2004. “Who Wins the Olympic Games? Economic Resources and Medal Totals.” *Review of Economic and Statistics* 19: 129-139.

Brouwers, J., Sotiriadou, P., & De Bosscher, V. (2015). Sport-specific policies and factors that influence international success: The case of tennis. Sport Management Review, 18(3), 343-358. doi: 10.1016/j.smr.2014.10.003

De Bosscher, Veerle., Jerry Bingham, Simon Shibli, Maarten van Bottenburg and Paul De Knop. 2008. *The Global Sports Arms Race: An International Comparative Study on Sports Policy Factors Leading to International Sporting Success*. Aachen: Meyer & Meyer.

De Bosscher, Veerle., Paul De Knop, Maarten van Bottenburg and Simon Shibli. 2006. “A Conceptual Framework for Analyzing Sports Policy Factors Leading to International Sporting Success.” *European Sport Management Quarterly* *6*: 185–215.

De Bosscher, Veerle., Paul De Knop, Maarten van Bottenburg, Simon Shibli and Jerry Bingham, J. 2009. “Explaining International Sporting Success. An International Comparison of Elite Sport Systems and Policies in Six Nations.” *Sport Management Review* 12: 113-136.

De Bosscher, Veerle., Simon Shibli, Maarten van Bottenburg, Paul De Knop and Jasper Truyens. 2010. “Developing a methodology for comparing the elite sport systems and policies of nations: a mixed research methods approach.” *Journal of Sport Management* 24: 567-600.

De Bosscher, Veerle., Maarten van Bottenburg, Simon Shibli and Paul De Knop .2013. “Managing High Performance Sport at the National Policy Level.” In *Managing High Performance Sport*, edited by Popi Sotririadou and Veerle De Bosscher, 45-64. London: Routledge.

De Bosscher, Veerle., Simon Shibli, Hans Westerbeek and Maarten van Bottenburg. 2015. *Successful Elite Sport Policies: An International Comparison of the Sports Policy factors Leading to International Sporting Success (SPLISS 2.0) in 15 Nations*. Aachen: Meyer & Meyer

Dennis, Mike., Johnathon Grix. 2012. *Sport Under Communism: Behind the East German Miracle*. London: Palgrave Macmillan.

Digel, Helmut. 2002. “A Comparison of Competitive Sports Systems”, *New Studies in Athletics* 17: 37-49.

Donnelly, Peter. 2009. “Own the Podium or Rent it? Canada’s Involvement in the Global Sporting Arms Race.” *Policy Options* *31*: 41-44.

Green, Mick and Barrie Houlihan. 2005. *Elite Sport Development: Policy Learning and Political Priorities*. New York: Routledge.

Green, Mick and Ben Oakley. 2001. Elite Sport Development Systems and Playing to Win: Uniformity and Diversity in International Approaches.” *Leisure Studies* *20*(4): 247-267. doi:10.1080/02614360110103598

Grix, Johnathon and Fiona Carmichael. 2012. “Why do Governments Invest in Elite Sport? A Polemic.” *International Journal of Sport Policy and* *Politics* 4: 73-90.

Henry, Ian and Ling-Mei Ko. 2015. Unpacking the SPLISS Case for Identifying the Critical Success Factors in Elite Sports Systems: A Critique. Paper presented at the European Association for Sport Management Conference, Dublin, Ireland.

Houlihan, Barrie and Mick Green. 2008. *Comparative Elite Sport Development: Systems, Structures and Public Policy*. Oxford: Butterworth-Heinemann

Kikulis, Lisa., Trevor Slack and Bob Hinings. 1992. “Institutionally Specific Design Archetypes: A framework for Understanding Change in National Sport Organizations.” *International Review for the Sociology of Sport* 27: 343-368.

Legg, David and Simon Darcy. 2015. “Socio-cultural Determinants of Paralympic Sport.”

Paper presented at the VISTA International Paralympic Committee Scientific Congress, Girona, Spain, October 7-10.

Mitchell, Heather., Heath Spong and Mark Stewart. 2012. “Gambling with Public Money: An Economic Analysis of National Sports Team Funding.” *The Economic and Labour Relations Review* 23: 7-22.

Misener, Laura and Simon Darcy. 2014. “Managing Disability Sport: From Athletes with Disabilities to Inclusive Organisational Perspectives.” *Sport Management Review* 17: 1-7.

Morton, R. 2002. “Who won the Sydney 2000 Olympics? An Allometric Approach.” The Statistician 51: 147-155.

Pankowiak, Aurelie., Camilla Brocket, Veerle De Bosscher, Hans Westerbeek. 2015. “Developing a Theoretical Model to Compare National Para-Sport Policies – Para-SPLISS.” The Second World Congress on Elite Sport Policy 2015. Book of abstracts of the second SPLISS conference, 82-83. Nieuwegein: Arko Sports Media & ISEAL. Melbourne, November 23-24

Petry, Karen., Dirk Steinbach and Walter Tokarski. 2004. “Sport Systems in the Countries of the European Union: Similarities and Differences.” *European Journal for Sport and Society* 1: 15-21.

Radtke, Sabine and Gudrin Doll-Tepper. 2014. A Cross-cultural Comparison of Talent Identification and Development in Paralympic Sports: Perceptions and Opinions of Athletes, Coaches and Officials. Berlin: Freie Universität Berlin.

Slack, Trevor and Bob Hinings. 1994. “Institutional Pressures and Isomorphic Change: An Empirical Test.” *Organization Studies 15*: 803-827. doi: 10.1177/017084069401500602

Smolianov, Peter and Dwight Zakus. 2008. “Exploring High Performance Management in Olympic Sport with References to Practices in the Former USSR and Russia.” The *International Journal of Sport Management* 9: 206-232.

Truyens, Jasper., Veerle De Bosscher, Bruno Heyndels and Hans Westerbeek. 2013. “A Resource-based Perspective on Countries’ Competitive Advantage in Elite Athletics.”, *International Journal of Sport Policy and Politics* 6(3): 459-489.